
Graduate level medical students' ability to detect and address incidental melanoma in a simulation study

an observational evaluation study

SPSIM, 12.09.2019

Nace Trendafilov (master candidate)

Supervisor: PD Dr. med. Helmut Beltraminelli
Department of Dermatology, University Hospital of Bern

Co-Advisors: Dr. med. Daniel Bauer, MME & Dr. med. Sandra Wüst
Institute for Medical Education

Some facts

Melanoma

- High-risk population: repetitive UV-exposure, skin type, family history
- Breslow classification = prognosis
- 5 year survival after excision = 98% early stage / 23% metastasized

Switzerland

- Men 28.1/100'000
- Women 23.9/100'000
- 2'704 cases per year (2011-2015)
- 328 deaths per year (2011-2015)

Detection

- 53% self-detected (no self-check = incidental)
- 20% dermatologist

Objective

Evaluating the competence of final-year medical students detecting incidental melanoma during a formative clinical skills evaluation with standardized patients. The results evaluate Bernese medical students' dermatological skills on a practical and relevant outcome level.

Methods

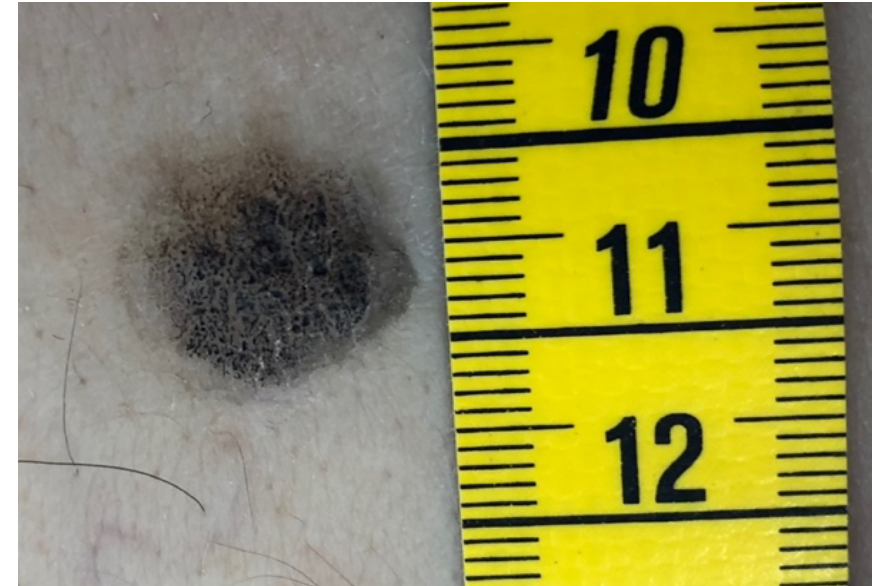
- Formative clinical skills evaluation
- N=60 final year students (quarter semester cohort)
- 4 different cases
- 13 minutes per case

SP's case story

- Chief complaint: bowel obstruction due to unhealthy diet
- Suspicious skin lesion placed on the left flank as secondary (incidental) finding
- instructed always to take off shirt but not actively attract attention to lesion

Suspicious lesion

- 3-dimensional Probondo-based prosthetic (transfer tattoo)
- Placed in left axillary line above 9th rib
- Irregular shape, fluent borders, inhomogeneous colours, 13 mm diameter



Checklist

Question content

Asked about the lesion: yes / no / other: _____

Onset of the lesion: yes / no / other: _____

Changes in the lesion: colour and size: yes / no / other: _____

Characteristics of the lesion: itching and bleeding: yes / no / other: _____

Personal history of sunburns and sunscreen use: yes / no / other: _____

Exacerbating factors: yes / no / other: _____

Alleviating factors: yes / no / other: _____

Pertinent review of systems: yes / no / other: _____

Action During Examination

Examined skin: yes / no / other: _____

Touched lesion: yes / no / other: _____

Measured lesion: yes / no / other: _____

Examined lymph nodes: yes / no / other: _____

Documentation of Patient Encounter

Assess an atypical skin lesion: yes / no / other: _____

Refer an atypical skin lesion for biopsy: yes / no / other: _____

Educate about skin cancer prevention: yes / no / other: _____

Other observations:

Results

- 60 students invited to participate in study
- (3 students excluded; no consent)
- (1 student excluded; previous student picked at the moulage, destroying it)
- Age median 25 years
- 54% participants female

Checklist

- 2 / 56 students (4%) addressed the lesion and
 - asked about the lesion
 - onset of the lesion
 - touched the lesion

Question content

Asked about the lesion: yes / no / other: _____

Onset of the lesion: yes / no / other: _____

Changes in the lesion: colour and size: yes / no / other: _____

Characteristics of the lesion: itching and bleeding: yes / no / other: _____

Personal history of sunburns and sunscreen use: yes / no / other: _____

Exacerbating factors: yes / no / other: _____

Alleviating factors: yes / no / other: _____

Pertinent review of systems: yes / no / other: _____

Action During Examination

Examined skin: yes / no / other: _____

Touched lesion: yes / no / other: _____

Measured lesion: yes / no / other: _____

Examined lymph nodes: yes / no / other: _____

Documentation of Patient Encounter

Assess an atypical skin lesion: yes / no / other: _____

Refer an atypical skin lesion for biopsy: yes / no / other: _____

Educate about skin cancer prevention: yes / no / other: _____

Other observations:

Follow-up Questionnaire

- 38 / 56 students (68%) completed the questionnaire

	Y / real	N / artificial
1 Regarding the case of Mr. Mikulic' abdominal pain, were you quite able to assume the physician's role?	97%	3%
2 Do you think you received adequate education in dermatology during your medical program?	76%	24%
3 Did you see the abnormal skin finding on Mr. Mikulic' left flank?	11%	81%
4 Did you consider this skin condition to be real (part of the actor) or artificial (part of the simulation)?	100%	0%
5 Did you address this skin finding during the 13-minute consultation with Mr. Mikulic?	0%	100%

Question 3 included the picture of the SP's trunk with the melanoma as visual cue to aid memory



Discussion

Comparing results to similar studies

<i>Study</i>	<i>Detection rate (not diagnosed)</i>	<i>Melanoma's location</i>	<i>Chief complaint</i>
Current study	4%	Abdomen	Bowel obstruction
Garg et al.	54,2%	Back	Pulmonary complaint
Hernandez et al.	22.6%	Second digit	Carpal syndrom
Zorn et al.	42%	Dorsal hand	Carpal syndrom

- Different locations
- 2 minutes longer (Garg et al., Hernandez et al.)
- 7 minutes longer (Zorn et al.)

Discussion

- Attention bias (exam setting, though formative)
- Irritation about simulation (skin lesion real or part of simulation)
- No conclusion regarding participants competence
- Possible implications for curriculum
 - More holistic approach to patients
 - Professionalism
- Adaption of study necessary to answer original research question

u^b

UNIVERSITÄT
BERN

IML Institut für
Medizinische
Lehre

INSELSPITAL
UNIVERSITÄTSSPITAL BERN
HÔPITAL UNIVERSITAIRE DE BERNE

Questions

